REMARKS

By this amendment, Claims 1–2, 5–7, 10, 13–15, 18–20, 23–25, 28–29, and 32–34 are amended. No claims have been added or canceled. Hence, Claims 1–36 are pending in the application.

Each issue raised in the Office Action mailed March 28, 2008, is addressed hereinafter.

I. ISSUES RELATING TO CLAIM AMENDMENTS

The amendments to the claims as indicated herein do not add any new matter to this application. Support for the amendments made to the claims can be found in the at least the following paragraphs of the Specification: Paragraph **[0012]** ("Under RFC 792, IPv4 ICMP error packets comprise a copy of the IP header of the original packet that generated an error, and at least eight (8) bytes of data from the payload of the original IP packet."); Paragraph **[0020]** ("Unlike prior approaches, transport layer or application-layer protocol information embedded in the ICMP packet is used to authenticate the packet.").

II. ISSUES NOT RELATING TO ANY CITED PRIOR ART

Claim 18 was rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter. Present Claim 18 satisfies all statutory requirements. Reconsideration of the claim and withdrawal of the rejection are respectfully requested.

III. ISSUES RELATING TO CITED PRIOR ART

A. CLAIMS 1–28 —*TALPADE in view of FAN*

Claims 1–28 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Pub No. 2004/0148520, by *Talpade* et al. ("*Talpade*"), in view of U.S. Patent No. 6,219,706, issued to *Fan* et al ("*Fan*"). Based on the following arguments, the rejections are respectfully traversed.

Independent Claim 1 recites:

> receiving an ICMP packet, wherein a data field within the ICMP packet includes a portion of a header associated with a connection in a connection-oriented transport protocol, and wherein the portion of the header includes a packet sequence value associated with the connection;
>
> obtaining the packet sequence value from the portion of the header that is included within the data field within the ICMP packet;
>
> **authenticating the ICMP packet by determining if the packet sequence value from the portion of the header that is included within the data field within the ICMP packet is valid**; and
>
> responding to the ICMP packet by updating a parameter value associated with the transport protocol connection only if the packet sequence value is determined to be valid.

(Emphases added.) No combination of *Talpade* in view of *Fan* teaches at least the bold-faced features of Claim 1 as recited above.

Claim 1 recites "a data field **within the ICMP packet** includes a portion of a header associated with a connection in a connection-oriented transport protocol, and wherein the portion of the header includes a packet sequence value associated with the connection." It is stated in RFC 792 that some ICMP packets, such as the ICMP recited in Claim 1, have the following structure:

MAC Header	IP Header	ICMP Header	**ICMP data field** ***Data includes:*** • *Reproduced IP Header from the original datagram* • *Reproduced portion of TCP Header from the original datagram* ***(with packet sequence number)***

Thus, the "packet sequence number" as recited in Claim 1 refers *specifically* to the packet sequence number that is "**from the portion of the header that is included within the data field**

within the ICMP packet," as recited in Claim 1. Claim 1 recites that the ICMP packet is **authenticated** "by determining if the packet sequence value **from the portion of the header that is included within the data field within the ICMP packet** is valid." As recited in Claim 1, only if the packet sequence value is determined to be valid will a parameter value be updated.

Talpade fails to teach or suggest "authenticating the ICMP packet by determining if the packet sequence value from the portion of the header that is included within the data field within the ICMP packet is valid," as recited in Claim 1. To the extent that *Talpade* teaches determining the validity of values from ICMP packets, *Talpade* merely teaches "[t]he sensor filters **analyze packet headers** looking for field values beyond the defined range of values." (*Talpade*, Paragraph [0020].) In contrast with Claim 1, *Talpade* describes analyzing **packet headers**. *Talpade* does not teach or suggest analyzing any ICMP packet **data fields**, as recited in Claim 1. Therefore, *Talpade* does not teach or suggest **authenticating ICMP packets** by determining the validity of values **found within ICMP data fields**, as recited in Claim 1.

Fan does not "fill the gaps" left behind by *Talpade*. In contrast to Claim 1, *Fan* merely describes a firewall receiving a TCP packet, not an ICMP packet, and examining the **header of the TCP packet** for the packet sequence number. (*Fan*, Col. 10, lines 27–30: "It may do so by examining the packet header.") *Fan* does not describe examining a **data field** of a packet for any packet sequence number, as recited in Claim 1. Furthermore, in contrast to Claim 1, *Fan* teaches that the firewall receives a packet, and examines a payload of a packet "to determine whether it has a specified intrusion signature." (*Fan*, Col. 13, lines 31–33.) Therefore, *Fan* does not teach or suggest **authenticating ICMP packets** by **determining the validity of a packet sequence value found within an ICMP packet data field**, as recited in Claim 1. Because no combination of *Talpade* and *Fan* teaches one or more express features of Claim 1, it is respectfully submitted that Claim 1 is allowable over *Talpade* in view of *Fan*, and is condition for allowance.

Furthermore, no combination of *Talpade* or *Fan* teaches "responding to the ICMP packet by updating a parameter value associated with the transport protocol connection only if the packet sequence value is determined to be valid," as recited in Claim 1. *Fan* does not teach ICMP packets, and therefore cannot be relied upon to teach this feature. To the extent that *Talpade* responds to any ICMP packets that are received and not filtered by the sensors, the system of *Talpade* responds to the ICMP packets only after examining analyzing **packet headers** to determine the validity of the packet, not **data fields**, as recited in Claim 1. As discussed above, *Talpade* does not teach analyzing any data fields. Thus, *Talpade* does not teach "responding to the ICMP packet ... only if the packet sequence value is determined to be valid," as recited in Claim 1. Because no combination of *Talpade* and *Fan* teaches one or more express features of Claim 1, it is respectfully submitted that Claim 1 is allowable over *Talpade* in view of *Fan*, and is condition for allowance.

Independent Claim 10 recites:

> receiving, at a TCP endpoint node in a TCP/IP packet-switched network, an ICMP packet, wherein a data field within the ICMP packet includes a portion of a TCP header associated with a TCP connection;
>
> obtaining a packet sequence number from the portion of the TCP header that is included within the data field within the ICMP packet;
>
> authenticating the ICMP packet by determining if the packet sequence number from the portion of the TCP header that is included within the data field within the ICMP packet is valid; and
>
> **responding to the ICMP packet by updating a maximum transmission unit (MTU) value associated with the TCP connection only if the packet sequence number is determined to be valid.**

The Office Action states that "claim 10 ... encompass the same scope as claim 1...." Applicants respectfully disagree. Claim 10 recites features that are not disclosed in Claim 1. For example, Claim 10 recites "a TCP endpoint node," a "TCP/IP packet-switched network," and a "maximum

transmission unit (MTU) value." In addition to features already discussed above, no combination of *Talpade* or *Fan* teach or disclose "**responding to the ICMP packet by updating a maximum transmission unit (MTU) value associated with the TCP connection only if the packet sequence number is determined to be valid**," as recited in Claim 10. As discussed above, *Fan* does not teach ICMP packets, and therefore does not teach the claimed feature. Furthermore, *Talpade*, in addition to not teaching any "determining if the packet sequence number from the portion of the TCP header that is included within the data field within the ICMP packet is valid," as discussed above, *Talpade* also does not teach "updating ... MTU ... values," as recited in Claim 10. Because no combination of *Talpade* and *Fan* teaches one or more express features of Claim 10, it is respectfully submitted that Claim 10 is allowable over *Talpade* in view of *Fan*, and is condition for allowance.

Independent Claims 18, 19, and 28 include features similar to Claim 1, except in the context of computer-readable media, in means-plus-function form, or as an apparatus claim. It is therefore respectfully submitted that Claims 18, 19, and 28 are patentable over *Talpade* in view of *Fan* for at least the reasons given above with respect to Claim 1.

Claims 29–36, 11–17, and 20–27 are dependent claims, each of which depends (directly or indirectly) on Claims 10, 18, 19, and 28. In addition, each of Claims 29–36, 11–17, and 20–27 introduces one or more additional features that independently render it patentable. Due to the fundamental differences already identified, to expedite the positive resolution of this case, a separate discussion of the features of Claims 29–36, 11–17, and 20–27 is not included at this time. The Applicant reserves the right to further point out the differences between the cited art and the novel features recited in the dependent claims.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

CONCLUSION

For the reason set forth above, all of the pending claims are in condition for allowance. The Examiner is respectfully requested to contact the undersigned by telephone relating to any issue that would advance examination of the present application.

If any fees are due with this Reply, the Commissioner is hereby authorized to charge any applicable fees and/or credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,

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